

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently amended): A display system for an aircraft, comprising:

a central unit configured to determine a speed vector of the aircraft and to determine a longitudinal margin of maneuver of the aircraft, wherein the longitudinal margin of maneuver is expressed as a load factor and is related to one of a pitch-up maneuver and a pitch-down maneuver; and

a display unit connected to the central unit and including a display screen configured to display a first characteristic sign illustrating the speed vector and a second characteristic sign illustrating the longitudinal margin of maneuver, wherein a distance between the first characteristic sign and the second characteristic sign is proportional to the longitudinal margin of error.

Claim 2 (Original): The display system of Claim 1, wherein the display screen is a heads-up display screen.

Claim 3 (Canceled)

Claim 4 (Currently amended): The display system of Claim 1, wherein[[,]] the first characteristic sign is shaped as a diamond [[,]] and the second characteristic sign is shaped as a chevron.

Claim 5 (Currently amended): The display system of Claim 1, wherein the central unit includes[[,]]:

a first determining unit configured to determine a longitudinal margin of maneuver related to a pitch-up maneuver $[[,]]_i$ ; and

a second determining unit configured to determine a longitudinal margin of maneuver related to a pitch-down maneuver.

Claim 6 (Original): The display system of Claim 5, wherein the first determining unit determines the longitudinal margin by selecting the smaller of a first load factor margin and an angle of incidence margin.

Claim 7 (Original): The display system of Claim 6, wherein the angle of incidence margin is calculated from the following expression:

$$\Delta\alpha = 1 - [(N_z / \Delta N_{\max}) * ((\alpha_{\max} - \alpha) / (\alpha - \alpha_0))],$$

wherein  $\Delta\alpha$  is the angle of incidence margin,  $N_z$  is a load factor,  $\Delta N_{\max}$  is a maximum value of margin of maneuver depicted,  $\alpha$  is a angle of incidence,  $\alpha_{\max}$  is a maximum angle of incidence, and  $\alpha_0$  is a zero lift angle of incidence.

Claim 8 (Original): The display system of Claim 5, wherein the second determining unit determines the longitudinal margin by selecting the smaller of a first load factor margin and a speed margin.

Claim 9 (Currently amended): The display system of Claim 8, wherein the speed margin is calculated from the following expression:

$$\Delta V = 1 - [(N_z + K_p(V_{\max} - V) - K_d(dV/dt)) / \Delta N_{\max}],$$

wherein  $\Delta V$  is the speed margin,  $N_z$  is a load factor,  $\Delta N_{\max}$  is a maximum value of margin of maneuver depicted,  $V$  is the a speed of the aircraft,  $V_{\max}$  is a maximum speed of the

aircraft,  $(dV/dt)$  is a derivative with respect to time of the speed  $V$ , and  $K_p$  and  $K_d$  are predetermined parameters.

Claim 10 (Original): The display system of Claim 1, wherein the display unit displays the second characteristic sign only when the determined longitudinal margin of maneuver is less than a predetermined value.

Claim 11 (Currently amended): A display system for an aircraft, comprising:  
a central unit including  $[[,]]$  a first determining unit configured to determine a speed vector of the aircraft  $[[,]]$  and a second determining unit configured to determine a longitudinal margin of maneuver of the aircraft; and

a display unit including a display screen configured to display a first characteristic sign illustrating the speed vector of the aircraft and a second characteristic sign illustrating the longitudinal margin of maneuver of the aircraft, wherein a distance between the first characteristic sign and the second characteristic sign is proportional to the longitudinal margin of error.

Claim 12 (Currently amended): The display system of Claim 11, wherein the second determining unit includes  $[[,]]$  a first selecting unit configured to determine a longitudinal margin of maneuver related to a pitch-up maneuver by selecting the smaller of a pitch-up load factor margin and an angle of incidence margin.

Claim 13 (Currently amended): The display system of Claim 12, wherein the second determining unit includes  $[[,]]$  a second selecting unit configured to determine a longitudinal

margin of maneuver related to a pitch-down maneuver by selecting the smaller of a pitch-down load factor margin and a speed margin.

Claim 14 (Currently amended): The display system of Claim 13, wherein the second determining unit includes[[,]]:

a first margin calculating unit configured to determine the pitch-up load factor margin[[,]];

a second margin calculating unit configured to determine the angle of incidence margin[[,]];

a third margin calculating unit configured to determine the pitch-down load factor margin[[,]]; and

a fourth margin calculating unit configured to determine the speed margin.

Claim 15 (New): The display system of Claim 14, wherein the second margin calculating unit determines the angle of incidence margin using the following expression:

$$\Delta\alpha = 1 - [(N_z / \Delta N_{\max}) * ((\alpha_{\max} - \alpha) / (\alpha - \alpha_0))],$$

wherein  $\Delta\alpha$  is the angle of incidence margin,  $N_z$  is a load factor,  $\Delta N_{\max}$  is a maximum value of margin of maneuver depicted,  $\alpha$  is a angle of incidence,  $\alpha_{\max}$  is a maximum angle of incidence, and  $\alpha_0$  is a zero lift angle of incidence.

Claim 16 (New): The display system of Claim 14, wherein the fourth margin calculating unit determines the speed margin using the following expression:

$$\Delta V = 1 - [(N_z + K_p(V_{\max} - V) - K_d(dV/dt)) / \Delta N_{\max}],$$

wherein  $\Delta V$  is the speed margin,  $N_z$  is a load factor,  $\Delta N_{\max}$  is a maximum value of margin of maneuver depicted,  $V$  is the speed of the aircraft,  $V_{\max}$  is a maximum speed of the

aircraft,  $(dV/dt)$  is a derivative with respect to time of the speed  $V$ , and  $K_p$  and  $K_d$  are predetermined parameters.

Claim 17 (New): A display system for an aircraft, comprising:

a central unit configured to determine a speed vector of the aircraft and to determine a longitudinal margin of maneuver of the aircraft; and

a display unit connected to the central unit and including a display screen configured to display a first characteristic sign illustrating the speed vector and a second characteristic sign illustrating the longitudinal margin of maneuver, wherein a distance between the first characteristic sign and the second characteristic sign is proportional to the longitudinal margin of error.

Claim 18 (New): The display system of Claim 17, wherein:

the longitudinal margin of maneuver is expressed as a load factor and is related to one of a pitch-up maneuver and a pitch-down maneuver;

the display screen is a heads-up display screen;

the first characteristic sign is shaped as a diamond; and

the second characteristic sign is shaped as a chevron.

Claim 19 (New): The display system of Claim 17, wherein the central unit includes:

a first determining unit configured to determine a longitudinal margin of maneuver related to a pitch-up maneuver; and

a second determining unit configured to determine a longitudinal margin of maneuver related to a pitch-down maneuver, wherein:

the first determining unit determines the longitudinal margin by selecting the smaller of a first load factor margin and an angle of incidence margin; and

the second determining unit determines the longitudinal margin by selecting the smaller of a first load factor margin and a speed margin.

Claim 20 (New): The display system of Claim 19, wherein:

the angle of incidence margin is calculated from the following expression:

$$\Delta\alpha = 1 - [(N_z / \Delta N_{\max}) * ((\alpha_{\max} - \alpha) / (\alpha - \alpha_0))],$$

wherein  $\Delta\alpha$  is the angle of incidence margin,  $N_z$  is a load factor,  $\Delta N_{\max}$  is a maximum value of margin of maneuver depicted,  $\alpha$  is a angle of incidence,  $\alpha_{\max}$  is a maximum angle of incidence, and  $\alpha_0$  is a zero lift angle of incidence; and

the speed margin is calculated from the following expression:

$$\Delta V = 1 - [(N_z + K_p(V_{\max} - V) - K_d(dV/dt)) / \Delta N_{\max}],$$

wherein  $\Delta V$  is the speed margin,  $N_z$  is a load factor,  $\Delta N_{\max}$  is a maximum value of margin of maneuver depicted,  $V$  is a speed of the aircraft,  $V_{\max}$  is a maximum speed of the aircraft,  $(dV/dt)$  is a derivative with respect to time of the speed  $V$ , and  $K_p$  and  $K_d$  are predetermined parameters.

Claim 21 (New): The display system of Claim 17, wherein the display unit displays the second characteristic sign only when the determined longitudinal margin of maneuver is less than a predetermined value.